What is claimed is:

1. A power supply system, comprising:

a first voltage source having a first output at a first voltage;

a second voltage source having a second output at a second voltage approximately equal to the first voltage; and

a circuit element having a plurality of power connection terminals and a plurality of return connection terminals, wherein a first portion of the plurality of power connection terminals and a first portion of the plurality of return connection terminals are connected to the first output, and wherein a second portion of the plurality of power connection terminals and a second portion of the plurality of return connection terminals are connected to the second output.

2. The power supply system of claim 1, wherein the first and second voltage sources are included in a single voltage regulator.

3. The power supply system of claim 1, wherein the first voltage source is included in a first voltage regulator and the second voltage source is included in a second voltage regulator.

4. The power supply system of claim 3, wherein the first output includes a first phase and the second output includes a second phase, further comprising:

a phase synchronizing connection between the first and second voltage regulators.

5. The power supply system of claim 1, wherein the circuit element is a microprocessor.

6. The power supply system of claim 1, wherein the circuit element is a socket.

7. The power supply system of claim 1, further comprising:

a third voltage source having a third output at a third voltage approximately equal to the first voltage, wherein a third portion of the plurality of power connection terminals and a third portion of the plurality of return connection terminals are connected to the third output.

8. The power supply system of claim 7, further comprising:

a fourth voltage source having a fourth output at a fourth voltage approximately equal to the first voltage, wherein a fourth portion of the plurality of power connection terminals and a fourth portion of the plurality of return connection terminals are connected to the fourth output.

9. The power supply system of claim 8, wherein the first output includes a first phase, the second output includes a second phase, the third output includes a third phase, and the fourth output includes a fourth phase, further comprising:

a phase synchronizing connection between the first, second, third, and fourth voltage sources.

10. The power supply system of claim 1, wherein the first portion of the plurality of power connection terminals is equal to the first portion of the plurality of return connection terminals, and wherein the second portion of the plurality of power connection terminals is equal to the second portion of the plurality of return connection terminals.

11. A circuit board, comprising:

a circuit card;

a first voltage source attached to the circuit card and having a first output at a first voltage;

a second voltage source attached to the circuit card and having a second output at a second voltage approximately equal to the first voltage; and

a circuit element attached to the circuit card and having a plurality of power connection terminals and a plurality of return connection terminals, wherein a first portion of the plurality of power connection terminals and a first portion of the plurality of return connection terminals are connected to the first output using a first plurality of traces on the circuit card, and wherein a second portion of the plurality of power connection terminals and a second portion of the plurality of return connection terminals are connected to the second output using a second plurality of traces on the circuit card.

12. The circuit board of claim 11, wherein the circuit element is a microprocessor.

13. The circuit board of claim 11, wherein the circuit element is a socket.

14. The circuit board of claim 11, wherein the first and second voltage sources are included in a single voltage regulator.

15. The circuit board of claim 11, wherein the first voltage source is included in a first voltage regulator and the second voltage source is included in a second voltage regulator.

16. The circuit board of claim 15, wherein the first output includes a first phase and the second output includes a second phase, further comprising:

a phase synchronizing connection between the first and second voltage regulators.

17. A computer, comprising:

a microprocessor mounted in a socket having a plurality of power connection terminals and a plurality of return connection terminals;

a first voltage source having a first output at a first voltage connected to a first portion of the plurality of power connection terminals and a first portion of the plurality of return connection terminals; and

a second voltage source having a second output at a second voltage approximately equal to the first voltage, wherein the second output is connected to a second portion of the plurality of power connection terminals and a second portion of the plurality of return connection terminals.

18. The computer of claim 17, wherein the first and second voltage sources are included in a single voltage regulator.

19. The computer of claim 17, wherein the first voltage source is included in a first voltage regulator and the second voltage source is included in a second voltage regulator.

20. The computer of claim 19, wherein the first output includes a first phase and the second output includes a second phase, further comprising:

a phase synchronizing connection between the first and second voltage sources.

21. A method of providing power to a circuit element, comprising:

selecting a first portion of a plurality of power connection terminals electrically coupled to the circuit element;

selecting a first portion of a plurality of return connection terminals electrically coupled to the circuit element;

connecting a first output supplied at a first voltage of a first voltage source to the first portions of the pluralities of power and return terminals;

selecting a second portion of the plurality of power connection terminals electrically coupled to the circuit element;

selecting a second portion of the plurality of return connection terminals electrically coupled to the circuit element; and

connecting a second output of a voltage source to the second portions of the pluralities of power and return terminals, wherein the second output is supplied at a second voltage approximately equal to the first voltage.

22. The method of claim 21, wherein the first and second phase outputs are supplied by a single voltage regulator.

23. The method of claim 21, wherein the first output is supplied by a first voltage regulator and the second output is supplied by a second voltage regulator.

24. The method of claim 23, wherein the first output includes a first phase and the second output includes a second phase, further comprising:

inserting a phase synchronizing connection between the first and second voltage regulators.

25. The method of claim 21, wherein the circuit element is a microprocessor.

26. The method of claim 21, wherein the circuit element is a socket.